

**Amendments to the Claims**

This listing of claims will replace all prior versions and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A radiation applicator having one end and an opposite distal end, the radiation applicator comprising:

a power input at said one end,

an elongate antenna extending axially of the applicator at said distal end, and  
a dielectric body which surrounds the antenna and serves to emit radiation radially of the dielectric body into surrounding material, the dielectric body comprising multiple sections of different dielectric constant which are located axially relative to one another along the antenna, wherein a radiation reflector is provided at the interface between two of said sections of the dielectric body so as to modulate the transmission of radiation and tune the applicator.

2. (Currently Amended) An applicator as claimed in claim 1 in which, the dielectric body consists of a second section adapted to emit radiation, and a first section between the second section and the power input, and the second section having a lower higher dielectric constant than the first section.

3. (Original) An applicator as claimed in claim 2 in which the dielectric body has an outer

section furthest from the power input having a dielectric constant lower than that of the second section.

4. (Original) An applicator as claimed in claim 3 in which the outer section has a dielectric constant intermediate that of the first and second sections.

5. (Previously Presented) An applicator as claimed in claim 1 in which, the multiple sections are made as separate components and are assembled to abut against one another end-to-end.

6. (Cancelled)

7. (Currently Amended) An applicator as claimed in claim 6 1 in which, a radiation reflector is provided each side of a one of said sections which is intended to emit radiation into the surrounding material, a reflector on that side further from the input end having a larger area so as to reflect more energy than the reflector nearer the input end, thereby reducing transmission of radiation to the tip of the applicator.

8. (Cancelled)

9. (Currently Amended) An applicator as claimed in claim 6 1 in which, the reflector is located at an interface between separate sections of the dielectric body and gives structural support to the applicator.

10. (Previously Presented) An applicator as claimed in claim 1 in which an outer end of the dielectric body furthest from the power input is pointed.

11. (Previously Presented) An applicator as claimed in claim 1 in which the power input comprises a coaxial conductor having a central conductor and an outer conductor, and in which the central conductor extends from the outer conductor to form said elongate antenna.

12. (Currently Amended) An applicator as claimed in claim ~~11~~ 10 in which the dielectric body has a reduced diameter and is inserted into an open end of the outer conductor.

13. (Currently Amended) An radiation applicator as claimed in claim 1 ~~having one end and an opposite distal end, the radiation applicator comprising:~~

~~a power input at said one end,~~

~~an elongate antenna extending axially at said distal end for emitting radiation into surrounding material, and~~

~~a dielectric body which surrounds the antenna, wherein the antenna extends through a hole in a section of said dielectric body and through a hole in a said radiation reflector, the reflector being attached to an axial end face of said section of dielectric body, and said radiation reflector is attached to the antenna so as to give structural support to the applicator.~~

14. (Cancelled)